Patent claims

1. A brake disk, especially for a rail vehicle, comprising at least one friction ring (7) which is provided with radial grooves (11) and is fastened by means of clamping bolts (4) to a hub (1), which can be secured to a shaft, or a wheel disk, sliding elements (8) connected to the hub (1) or the wheel disk engaging in the radial grooves (11) for the anti-rotation locking and the centering of the friction ring (7), characterized in that each sliding element (8) is designed as a guide pin which is produced from a semi-finished product or standard part and extends with its shank (9) parallel to the axis of the clamping bolt (4).

2. The brake disk as claimed in claim 1, characterized in that each radial groove (11), starting from a through-hole (6) of the friction ring (7), through which through-hole (6) the clamping bolt (4) passes, is extended outward or inward toward the center longitudinal axis of the hub (1).

3. The brake disk as claimed in either of the preceding claims, characterized in that each sliding element (8) is arranged in an insertion hole (14) of the hub (1), preferably a hub flange (2), or of the wheel disk.

4. The brake disk as claimed in one of the preceding claims, characterized in that each sliding element (8) has a head (10) which is guided in the associated radial groove (11).

5. The brake disk as claimed in one of the preceding claims, characterized in that each radial groove < or = about 10 mm.

6. The brake disk as claimed in one of claims 1 to 5, characterized in that the sliding element (8) is designed as a straight pin.

7. The brake disk as claimed in one of the preceding claims, characterized in that the head (10) of each sliding element (8) is designed as a polygon, preferably as a square or hexagon.

8. The brake disk as claimed in one of the preceding claims, characterized in that the head (10) of each sliding element (8) has two sides which run parallel to one another and bear against the side walls of the respectively associated radial groove (11).

9. The brake disk as claimed in one of the preceding claims, characterized in that each sliding element (8) with a polygonal head is produced from a polygonal steel, a cylindrical shank (9) being integrally formed by machining.

10. The brake disk as claimed in one of the preceding claims, characterized in that the sliding elements (8) are arranged in a symmetrically distributed manner over the circumference.

11. The brake disk as claimed in one of the preceding claims, characterized in that 3, 6, 9 or 12 sliding elements (8) are provided.

12. The brake disk as claimed in one of the preceding claims, characterized in that more than 6 sliding elements (8) are provided.

13. The brake disk as claimed in one of the preceding claims, characterized in that the number of sliding elements (8) corresponds to the number of clamping bolts (4).

List of designations

1	Hub
2	Hub flange
3	Hub body
4	Clamping bolt
5	Clamping ring
6	Through-hole
7	Friction ring
8	Sliding element
9	Shank
10	Head
11	Radial groove
12	Connecting flange
13	Pitch circle diameter
14	Insertion hole
15	Lug